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## NOTICE OF ALLOWANCE AND FEE(S) DUE

27799 7590 02/05/2010

COHEN, PONTANI, LIEBERMAN & PAVANE LLP  
551 FIFTH AVENUE  
SUITE 1210  
NEW YORK, NY 10176

EXAMINER

BORSETTI, GREG

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 02/05/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,243

07/03/2006

Vincent Barriac

5284-66PUS

8009

TITLE OF INVENTION: METHOD AND DEVICES FOR EVALUATING TRANSMISSION TIMES AND FOR PROCESING A VOICE SIGNAL  
RECEIVED IN A TERMINAL CONNECTED TO A PACKET NETWORK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/05/2010

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

27799 7590 02/05/2010

**COHEN, PONTANI, LIEBERMAN & PAVANE LLP**  
551 FIFTH AVENUE  
SUITE 1210  
NEW YORK, NY 10176

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,243 07/03/2006 Vincent Barriac 5284-66PUS 8009

TITLE OF INVENTION: METHOD AND DEVICES FOR EVALUATING TRANSMISSION TIMES AND FOR PROCESING A VOICE SIGNAL  
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APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 05/05/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
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BORSETTI, GREG 2626 704-217000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,243	07/03/2006	Vincent Barriac	5284-66PUS	8009
27799	7590	02/05/2010	EXAMINER	
COHEN, PONTANI, LIEBERMAN & PAVANE LLP 551 FIFTH AVENUE SUITE 1210 NEW YORK, NY 10176			BORSETTI, GREG	
			ART UNIT	PAPER NUMBER
			2626	
DATE MAILED: 02/05/2010				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 121 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 121 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/564,243	BARRIAC ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	GREG A. BORSETTI	2626	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to remarks (12/8/2009).
2. ☒ The allowed claim(s) is/are 1-23.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

/Greg A. Borsetti/  
Examiner, Art Unit 2626

**DETAILED ACTION**

***Response to Amendment***

1. Claims 1-23 are pending.
2. Claims 19-20 have been amended.
3. The 35 USC 101 rejections to claims 19-20 have been withdrawn in view of the amendments received 12/8/2009.

***Allowable Subject Matter***

4. The following is an examiner's statement of reasons for allowance:

As per claim 1, the closest known prior art fails to teach or fairly suggest, alone or in reasonable combination:

A method for evaluating a processing delay of a speech signal contained in data packets received in a receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, said method comprising the steps of:

obtaining, at the receiver terminal, a stream of audio packets from the received data packets and decoding the audio packet stream within a predetermined decoding time to reconstitute a first speech signal from the received packets of the audio stream;

duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech signal;

determining, at the receiver terminal, a time difference between the first speech signal and the second speech signal; and

calculating, at the receiver terminal, the processing delay of the speech signal contained in the data packets received in the receiver terminal from at least the determined time difference between said first and second speech signals and said predetermined decoding time.

Galetto et al. teaches the determination of speech latency across a communication network element having an input interface and an output interface includes allocating a timestamp to the data packets of a sample of data packets representing a speech signal at the two interfaces, recording the timestamps together with the corresponding data packets, decoding the recorded data packets at both interfaces to generate respective envelopes in the time domain, cross-correlating the envelopes to determine correlating areas of the envelopes, and determining a value for the speech latency between the interfaces from the timestamps associated with correlating areas of the envelopes. (Abstract) Galetto, however, fails to teach the limitation of duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech signal. Galetto, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Psytechnics teaches a determination of end-to-end delay based on the additional information about the delay estimate from RTCP packets, coding and packetization delay, jitter delay, and access delay from both the send and receive side. (Pages 2-3) Psytechnics, however, fails to teach the limitation of duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech signal. Psytechnics, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Kirla teaches the calculation of the transmission delay of a packet-switched network by using a Ping technique. (col. 8, lines 36-40) Kirla, however, fails to teach the limitation of duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech signal. Kirla, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Schaffer teaches sending end-to-end delay information over a packet-switched network to a collection server configured to manage end-to-end delay information sent by a plurality of communication terminals connected to a network. (col. 2, lines 32-35) Schaffer, however, fails to teach the limitation of duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech signal. Schaffer, therefore, also fails to teach the subsequent

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limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Claims 2-13 are also considered allowable for depending on, and further limiting, allowable claim 1.

As per claim 14, the closest known prior art fails to teach or fairly suggest, alone or in reasonable combination,

A device for evaluating a processing delay of a speech signal contained in data packets received in a receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, said device comprising:

a network filter module configured to obtain, at the receiver terminal, a stream of audio packets from the received data packets;

a control decoder module having a predetermined decoding time for decoding the stream of audio packets obtained and for reconstituting a first speech signal from the received packets of the audio stream;

an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal;



means for determining, at the receiver terminal, a time difference between the first speech signal and the second speech signal; and

means for calculating, at the receiver terminal, the processing delay of the speech signal contained in data packets received in the receiver terminal from at least the determined time difference between said first and second speech signals and the predetermined decoding time.

Galetto et al. teaches the determination of speech latency across a communication network element having an input interface and an output interface includes allocating a timestamp to the data packets of a sample of data packets representing a speech signal at the two interfaces, recording the timestamps together with the corresponding data packets, decoding the recorded data packets at both interfaces to generate respective envelopes in the time domain, cross-correlating the envelopes to determine correlating areas of the envelopes, and determining a value for the speech latency between the interfaces from the timestamps associated with correlating areas of the envelopes. (Abstract) Galetto, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Galetto, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Psytechnics teaches a determination of end-to-end delay based on the additional information about the delay estimate from RTCP packets, coding and packetization delay, jitter delay, and access delay from both the send and receive side. (Pages 2-3) Psytechnics, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Psytechnics, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Kirla teaches the calculation of the transmission delay of a packet-switched network by using a Ping technique. (col. 8, lines 36-40) Kirla, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Kirla, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Schaffer teaches sending end-to-end delay information over a packet-switched network to a collection server configured to manage end-to-end delay information sent by a plurality of communication terminals connected to a network. (col. 2, lines 32-35) Schaffer, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module,

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the duplicated portion of the speech signal constituting a second speech signal.

Schaffer, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Claims 15-18, 21-23 are also considered allowable for depending on, and further limiting, allowable claim 14.

As per claim 19, the closest known prior art fails to teach or fairly suggest, alone or in reasonable combination,

A computer-readable storage medium encoded with a computer program executed by a computer that causes evaluation of a processing delay of a speech signal contained in data packets received in a receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, the computer program comprising:

program code for obtaining, at the receiver terminal, a stream of audio packets from the received data packets and decoding the audio packet stream within a predetermined decoding time to reconstitute a first speech signal from the received packets of the audio stream;

program code for duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech

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signal;

program code for determining, at the receiver terminal, a time difference between the first speech signal and the second speech signal; and

program code for calculating, at the receiver terminal, the processing delay of the speech signal contained in the data packets received in the receiver terminal from at least the determined time difference between said first and second speech signals and said predetermined decoding time.

Galetto et al. teaches the determination of speech latency across a communication network element having an input interface and an output interface includes allocating a timestamp to the data packets of a sample of data packets representing a speech signal at the two interfaces, recording the timestamps together with the corresponding data packets, decoding the recorded data packets at both interfaces to generate respective envelopes in the time domain, cross-correlating the envelopes to determine correlating areas of the envelopes, and determining a value for the speech latency between the interfaces from the timestamps associated with correlating areas of the envelopes. (Abstract) Galetto, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Galetto, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech

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signal because the first and second speech signals are not both generated at the receiver terminal.

Psytechnics teaches a determination of end-to-end delay based on the additional information about the delay estimate from RTCP packets, coding and packetization delay, jitter delay, and access delay from both the send and receive side. (Pages 2-3) Psytechnics, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Psytechnics, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Kirla teaches the calculation of the transmission delay of a packet-switched network by using a Ping technique. (col. 8, lines 36-40) Kirla, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Kirla, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Schaffer teaches sending end-to-end delay information over a packet-switched network to a collection server configured to manage end-to-end delay information sent by a plurality of communication terminals connected to a network. (col. 2, lines 32-35)

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Schaffer, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal.

Schaffer, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

As per claim 20, the closest known prior art fails to teach or fairly suggest, alone or in reasonable combination,

A computer-readable storage medium encoded with a computer program executed by a computer that causes evaluation of a processing delay of a speech signal contained in data packets received in a receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, the computer program comprising:

program code for obtaining, at the receiver terminal, a stream of audio packets from the received data packets and decoding the audio packet stream within a predetermined decoding time to reconstitute a first speech signal from the received packets of the audio stream;

program code for duplicating, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module to constitute a second speech signal;

program code for determining, at the receiver terminal, a time difference between the first speech signal and the second speech signal; and

program code for calculating, at the receiver terminal, the processing delay of the speech signal contained in the data packets received in the receiver terminal from at least the determined time difference between said first and second speech signals and said predetermined decoding time; and

program code for evaluating the calculated processing delay of the speech signal in the terminal to evaluate end-to-end transmission delay of the speech signal contained in the data packets received in the receiver terminal during the voice call to the receiver terminal sending said speech signal over the packet-switched network.

Galetto et al. teaches the determination of speech latency across a communication network element having an input interface and an output interface includes allocating a timestamp to the data packets of a sample of data packets representing a speech signal at the two interfaces, recording the timestamps together with the corresponding data packets, decoding the recorded data packets at both interfaces to generate respective envelopes in the time domain, cross-correlating the envelopes to determine correlating areas of the envelopes, and determining a value for the speech latency between the interfaces from the timestamps associated with correlating areas of the envelopes. (Abstract) Galetto, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal

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constituting a second speech signal. Galetto, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Psytechnics teaches a determination of end-to-end delay based on the additional information about the delay estimate from RTCP packets, coding and packetization delay, jitter delay, and access delay from both the send and receive side. (Pages 2-3) Psytechnics, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Psytechnics, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

Kirla teaches the calculation of the transmission delay of a packet-switched network by using a Ping technique. (col. 8, lines 36-40) Kirla, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Kirla, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.



Schaffer teaches sending end-to-end delay information over a packet-switched network to a collection server configured to manage end-to-end delay information sent by a plurality of communication terminals connected to a network. (col. 2, lines 32-35) Schaffer, however, an audio filter module configured to duplicate, at the receiver terminal, at least a portion of the speech signal reconstituted by the telephony module, the duplicated portion of the speech signal constituting a second speech signal. Schaffer, therefore, also fails to teach the subsequent limitations involving the calculation of the processing delay of the speech signal because the first and second speech signals are not both generated at the receiver terminal.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREG A. BORSETTI whose telephone number is (571)270-3885. The examiner can normally be reached on Monday - Thursday (8am - 5pm Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHMOND DORVIL can be reached on 571-272-7602. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Greg A. Borsetti/  
Examiner, Art Unit 2626

/Talivaldis Ivars Smits/  
Primary Examiner, Art Unit 2626

1/27/2010